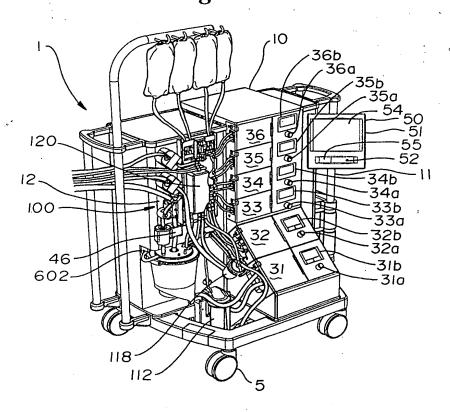
Serial No. 09/963,878 Applicant: Bruce Ellingboe et al. Attorney Docket: CV0290US

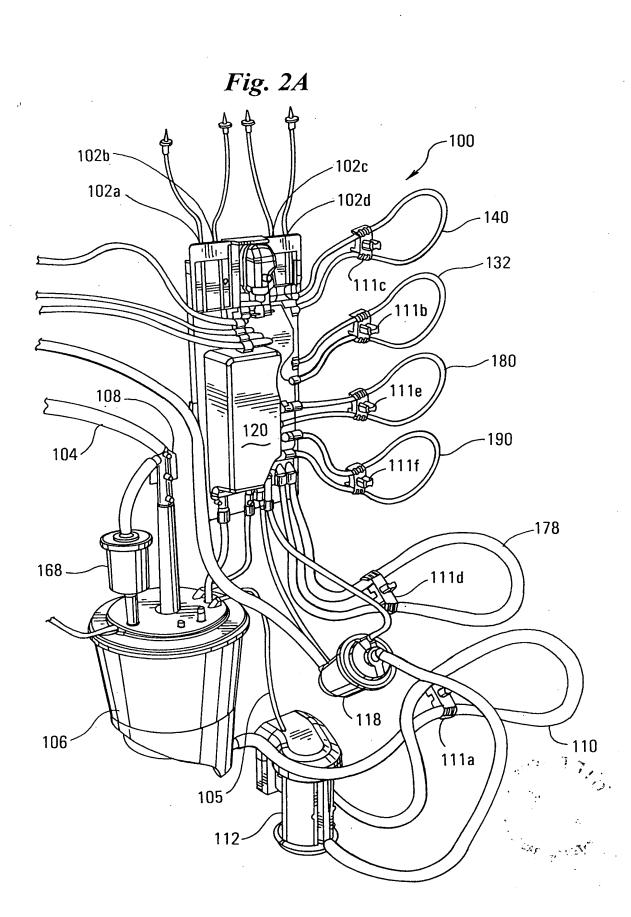
Attorney: Terry L. Wiles Telephone: (612) 334-8992

Fig. 1



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Serial No. 09/963,878
Applicant: Bruce Ellingboe et al.
Attorney Docket: CV0290US

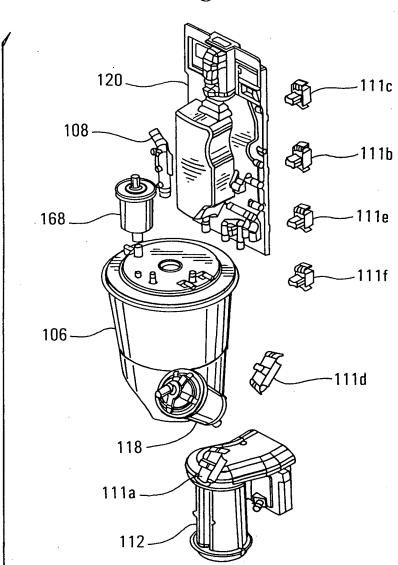
Attorney: Terry L. Wiles Telephone: (612) 334-8992



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Attorney: Terry L. Wiles Telephone: (612) 334-8992





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Serial No. 09/963,878

policant: Bruce Ellingboe et

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Fig.3A-1	Fig.3A-2
Fig.3A-3	Fig.3A-4

Fig.3B

Fig.3B-1	Fig.3B-2
Fig.3B-3	Fig.3B-4

SHEET 5/76

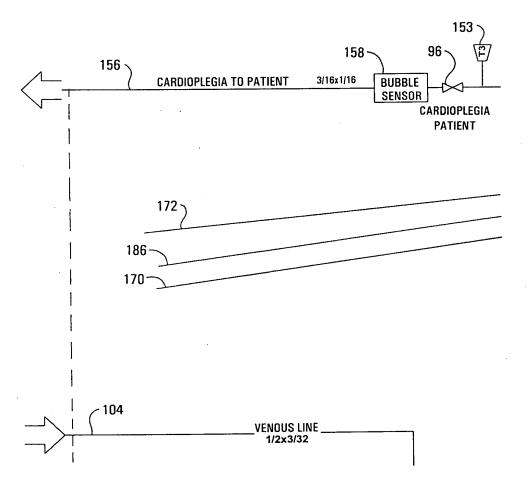
Serial No. 09/963,878

Applicant: Bruce Ellingboe et al.

Attorney Docket: CV0290US

Attorney: Terry L. Wiles Telephone: (612) 334-8992

Fig.3A-1





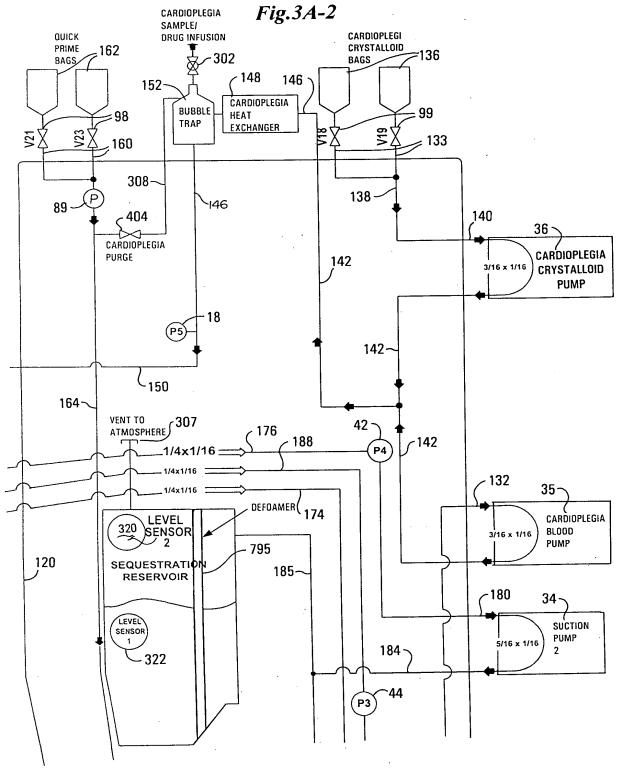


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Serial No. 09/963,878 Applicant: Bruce Ellingboe et al. Attorney Docket: CV0290US

Attorney: Docket: CV029003
Attorney: Terry L. Wiles
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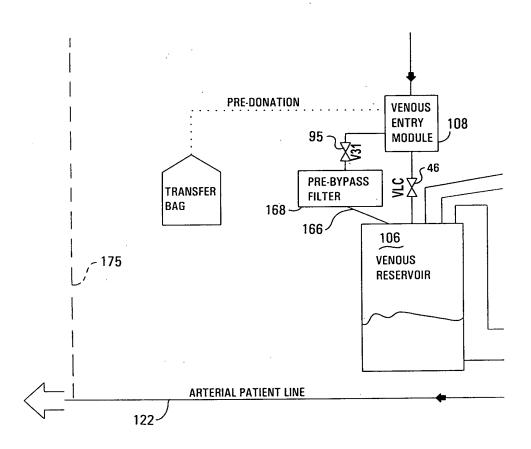


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Attorney: Terry L. Wiles Telephone: (612) 334-8992

Fig.3A-3





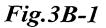
Serial No. 09/963,878 Applicant: Bruce Ellingboe et al. Attorney Docket: CV0290US Attorney: Terry L. Wiles Telephone: (612) 334-8992 Fig.3A-4 190 33 -VENT/ 310 ARTERIAL HEOCONC/ 402_{\1} 192 6/16x1/16 SUCTION 192a-**PUMP** SAMPLE XFER BAG 309b 303 ′′_{192b} P1 403 SEQUEST-P2 -130 ERED **40** BLOOD ACCESS 401 405 32, 406 129~ 305 SUCTION 182 309a CAROIOPLEGIA | BLOOD ACCESS **PUMP** 3/8 x 3/32 ^{119b} Х1 119a₃ (178 126-ARTERIAL 92-BUBBLE **FILTER** SENSOR ARTERIAL **PATIENT** 507 **OXYGENATOR VENT** 31-**-** 105 110 ~ ARTERIAL 3/8 x 3/32 **PUMP** Luge 116-BUBBLE OXYGENATOR SENSOR HEAT EXCHANGER 114 112

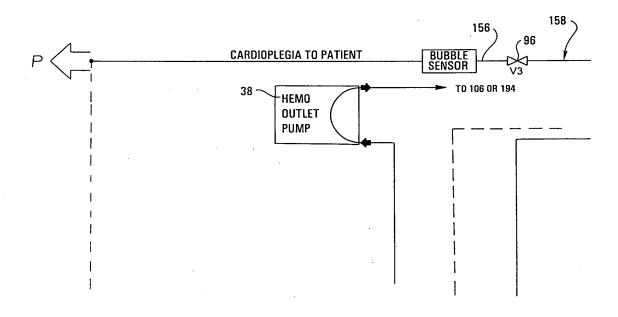
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Serial No. 09/963,878
Applicant: Bruce Ellingboe et al.

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Attorney: Terry L. Wiles
Telephone: (612) 334-8992



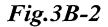


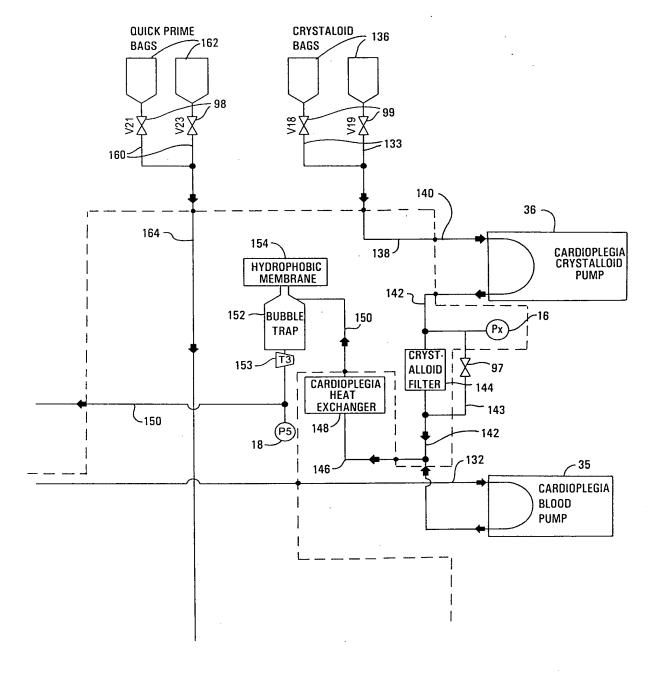
Serial No. 09/963,878

Applicant: Bruce Ellingboe et al.

Attorney Docket: CV0290US

Attorney: Terry L. Wiles Telephone: (612) 334-8992



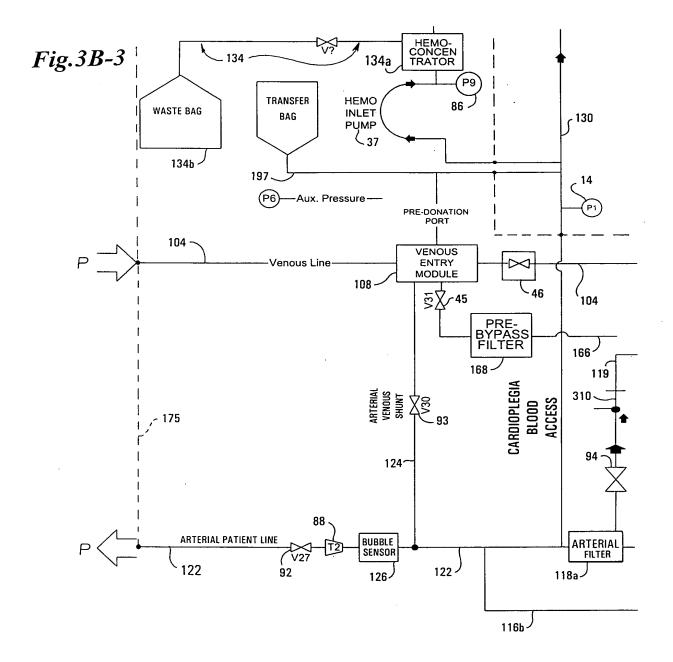




Serial No. 09/963,878

Applicant: Bruce Ellingboe et al.
Attorney Docket: CV0290US
Attorney: Terry L. Wiles
Telephone: (612) 334-8992



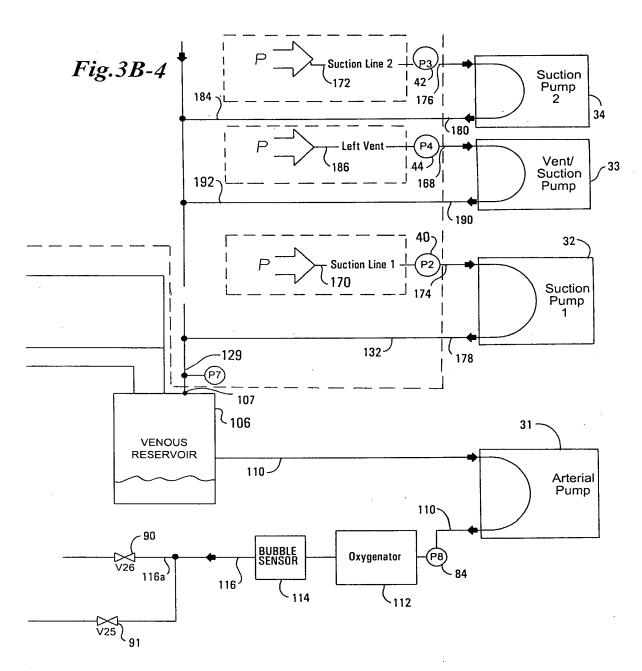




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Applicant: Bruce Ellingboe et al.
Attorney Docket: CV0290US
Attorney: Terry L. Wiles

Attorney: Terry L. Wiles Telephone: (612) 334-8992

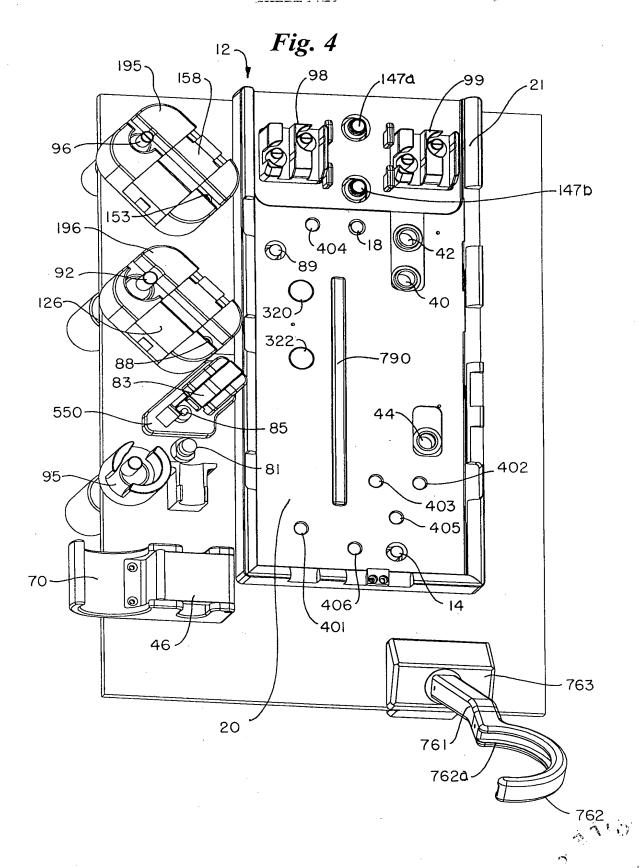




SHEE 1 13/16 Serial No. 09/963,878

Applicant: Bruce Ellingboe et al. Attorney Docket: CV0290US Attorney: Terry L. Wiles

Attorney: Terry L. Wiles Telephone: (612) 334-8992



SHEET 14/76
Serial No. 09/963,878
Applicant: Bruce Ellingboe et al.

Attorney: Terry L. Wiles

Talanhama (612) 224,8002

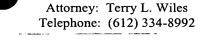
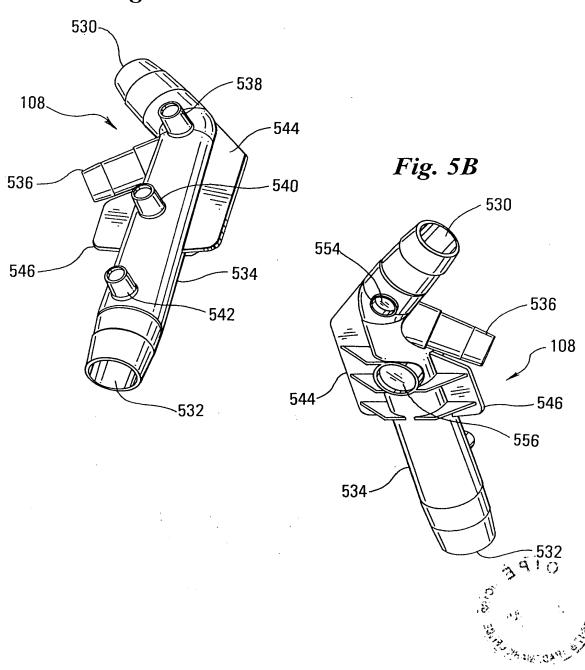
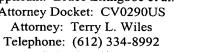


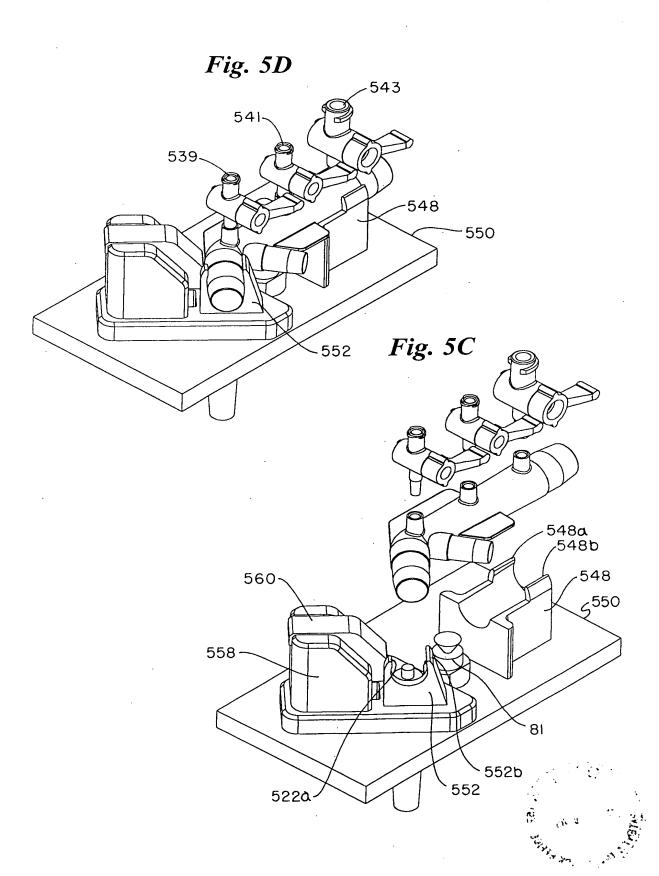
Fig. 5A



SHEET 15/76 Serial No. 09/963,878

Applicant: Bruce Ellingboe et al. Attorney Docket: CV0290US





SHEET 16/76 Serial No. 09/963,878

Applicant: Bruce Ellingboe et al.
Attorney Docket: CV0290US
Attorney: Terry L. Wiles
Telephone: (612) 334-8992

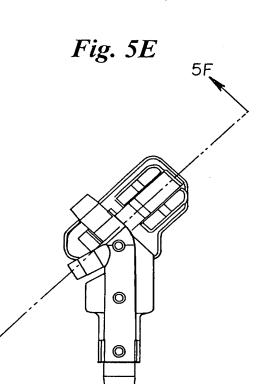
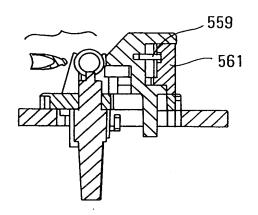


Fig. 5F





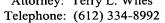
Serial No. 09/963,878

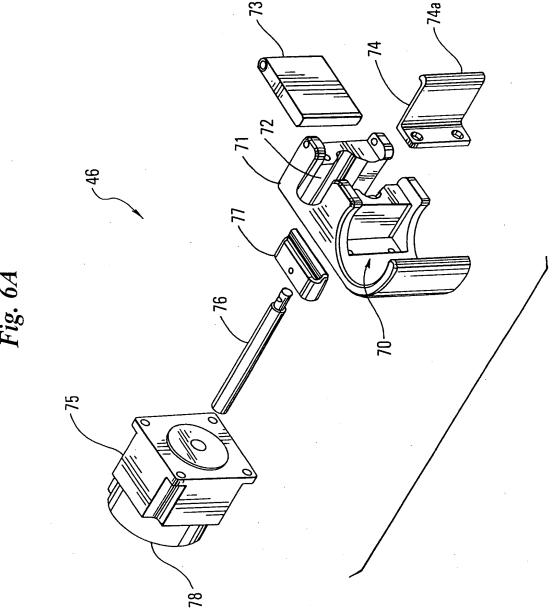
Applicant: Bruce Ellingboe et al.

Attorney Docket: CV0290US

Attorney: Terry L. Wiles

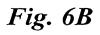
Telephone: (612) 334-8992

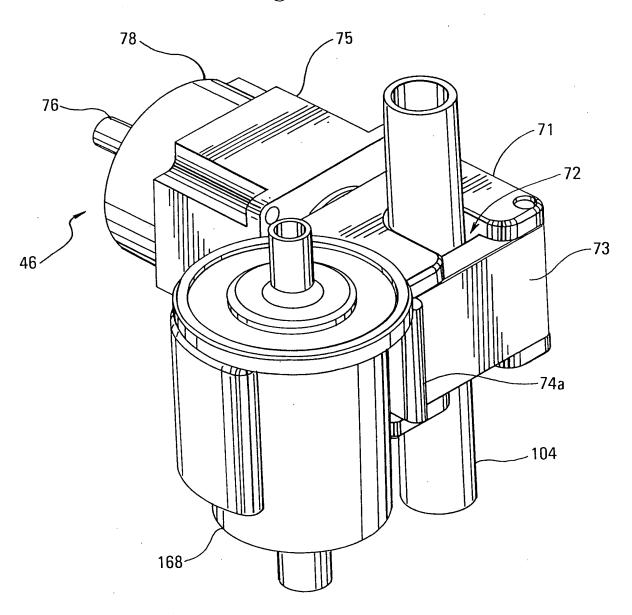




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Applicant: Bruce Ellingboe et al. Attorney Docket: CV0290US Attorney: Terry L. Wiles Telephone: (612) 334-8992



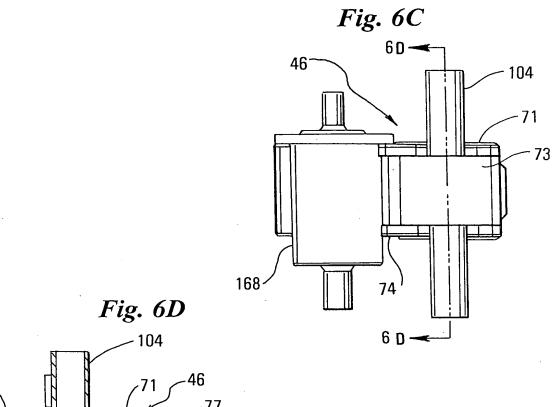


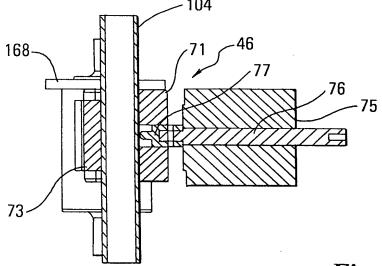


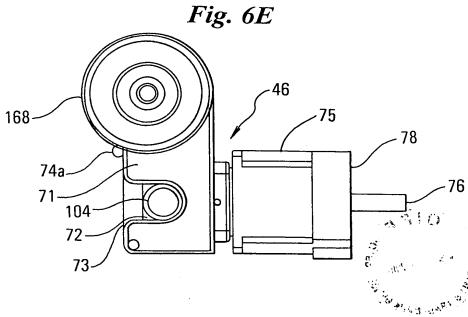
Special No. 09/963,878
Applicant: Bruce Ellingboe et al.

Attorney Docket: CV0290US Attorney: Terry L. Wiles Telephone: (612) 334-8992









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Fig. 7A

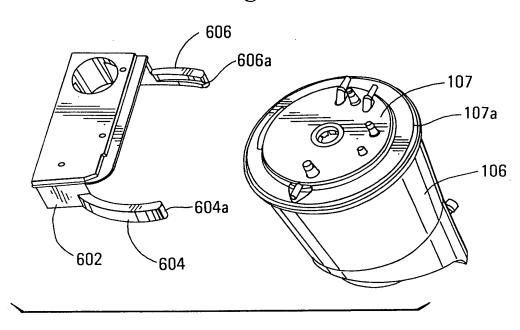
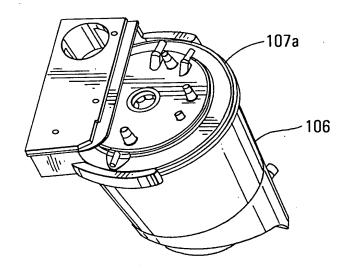


Fig. 7B

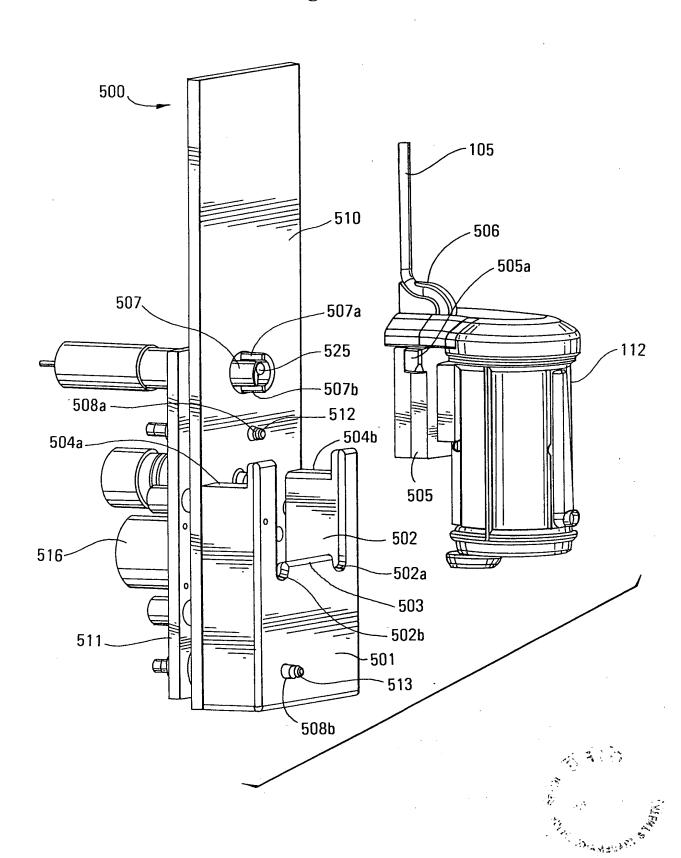




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Applicant: Bruce Ellingboe et al.

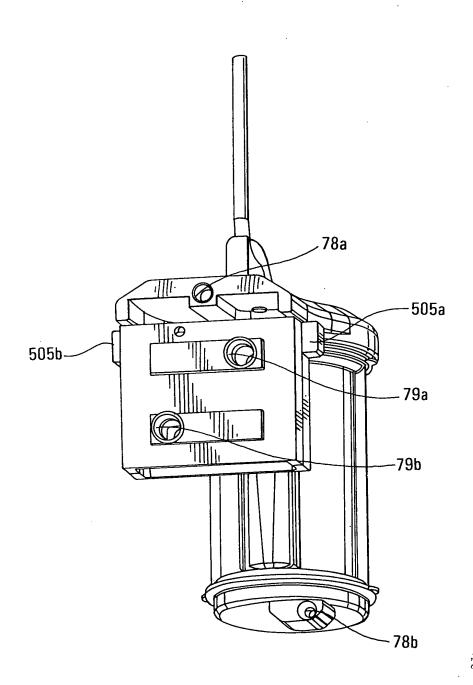
Attorney Docket: CV0290US
Attorney: Terry L. Wiles
Telephone: (612) 334-8992





Smrt1 22/16 Serial No. 09/963,878 Applicant: Bruce Ellingboe et al. Attorney Docket: CV0290US Attorney: Terry L. Wiles Telephone: (612) 334-8992

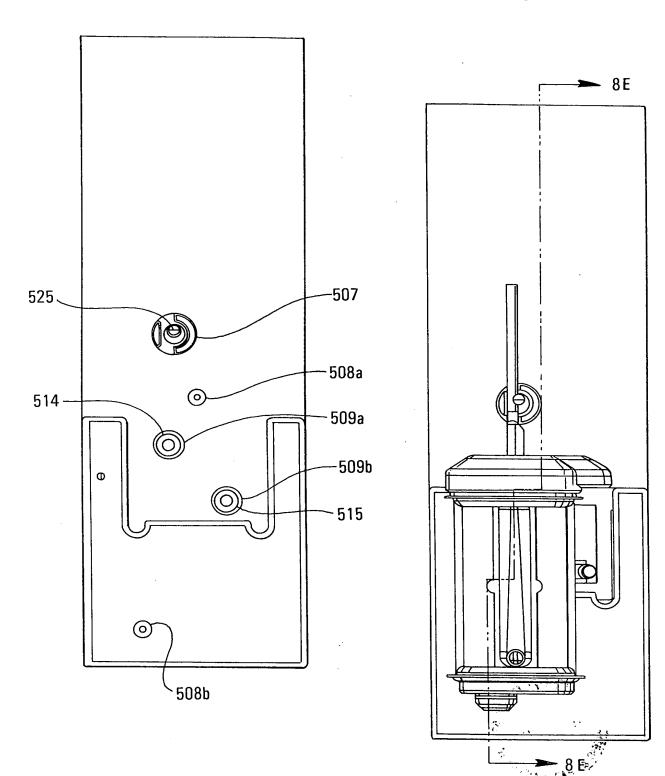




Attorney Docket: CV0290US Attorney: Terry L. Wiles Telephone: (612) 334-8992

Fig. 8C

Fig. 8D



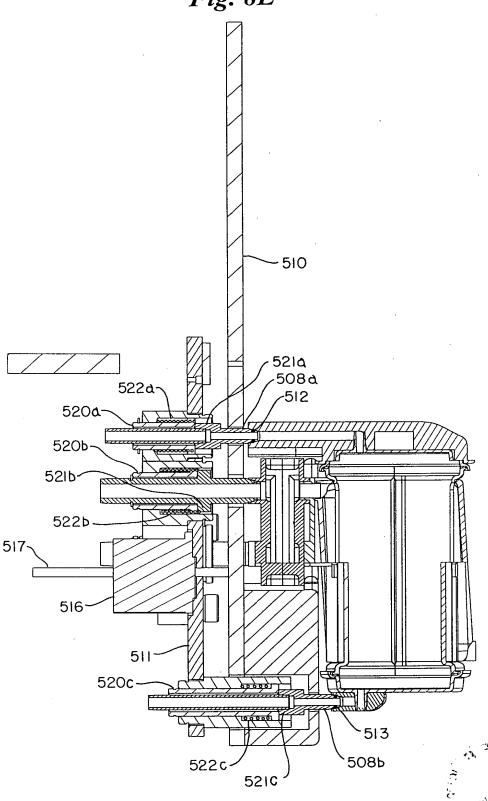
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Sanda 24/10 Serial No. 09/963,878

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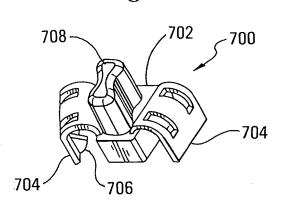




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Attorney Docket: CV0290US Attorney: Terry L. Wiles Telephone: (612) 334-8992

Fig. 9A



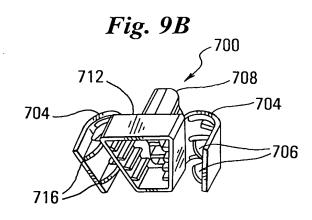
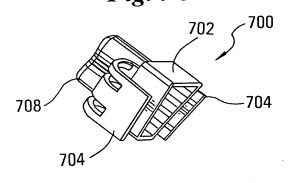


Fig. 9C



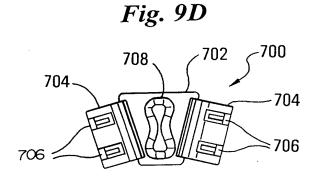


Fig. 9E

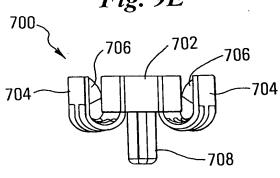
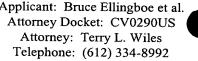
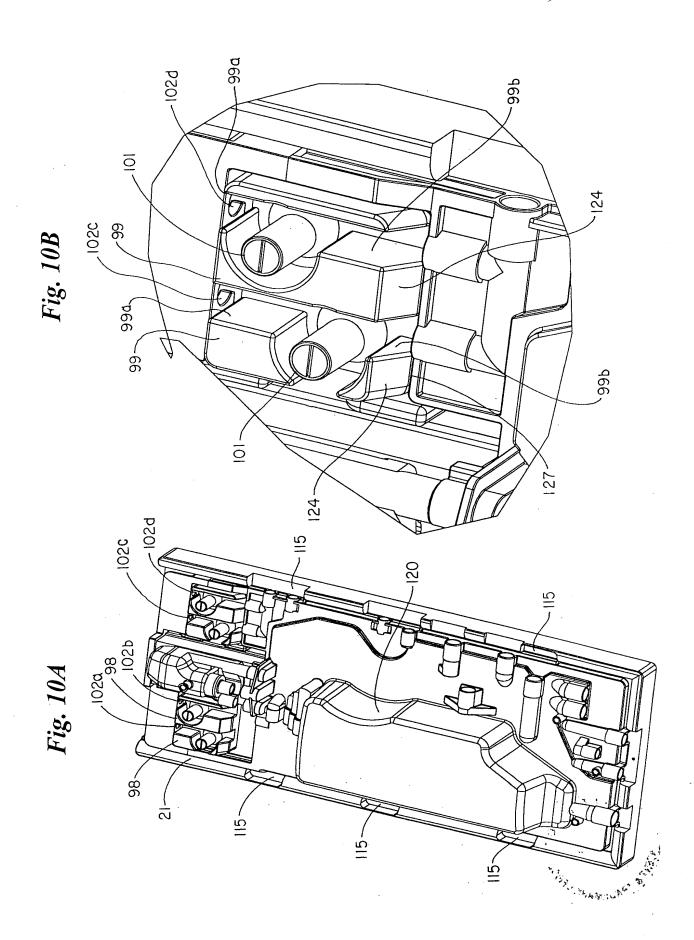


Fig. 9F
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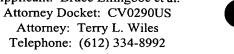
Serial No. 09/963,878 Applicant: Bruce Ellingboe et al.

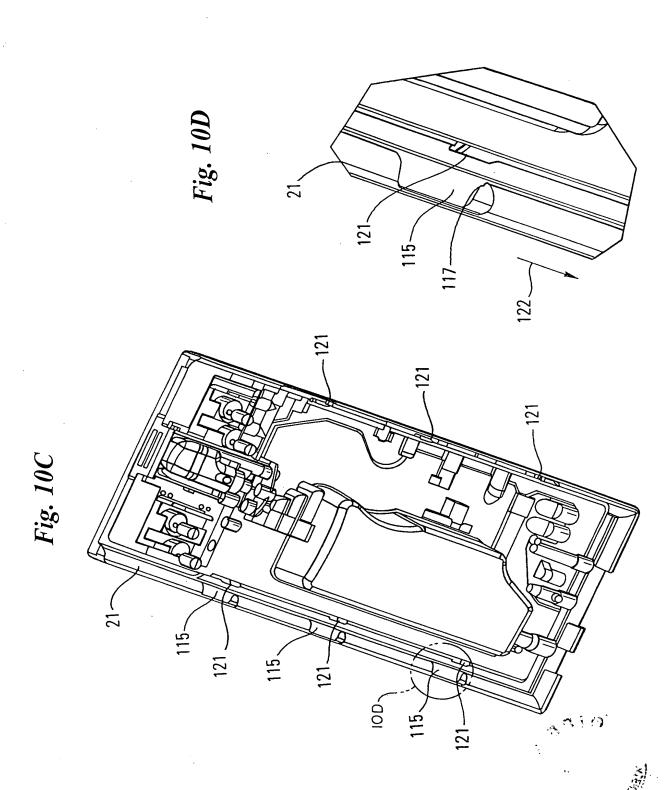




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Serial No. 09/963,878 Applicant: Bruce Ellingboe et al.





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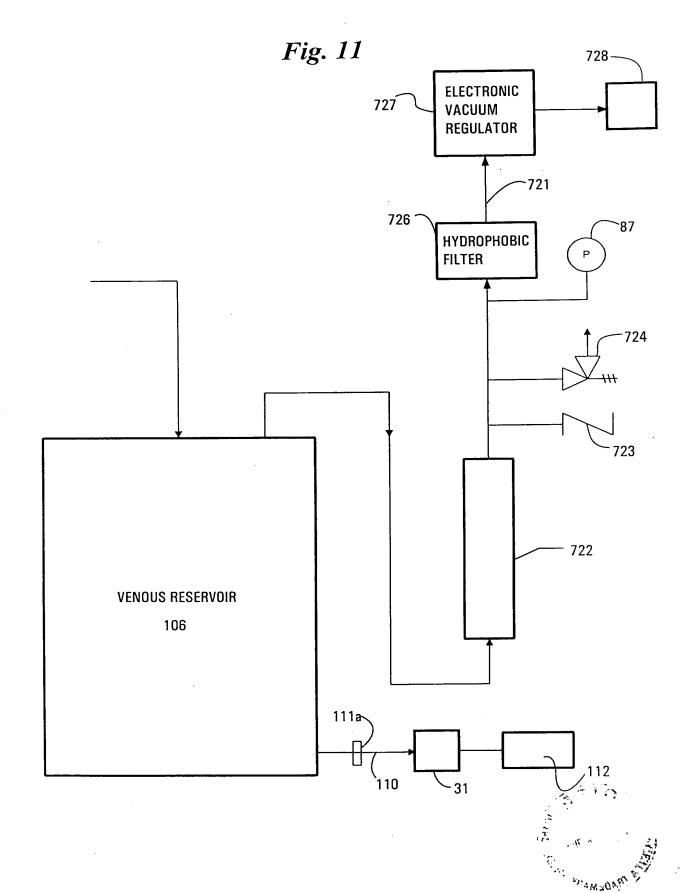
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Serial No. 09/963,878 Applicant: Bruce Ellingboe et al. Attorney Docket: CV0290US Attorney: Terry L. Wiles

Telephone: (612) 334-8992

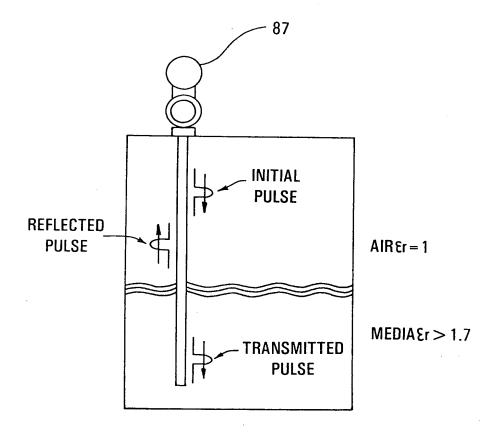




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Fig. 12



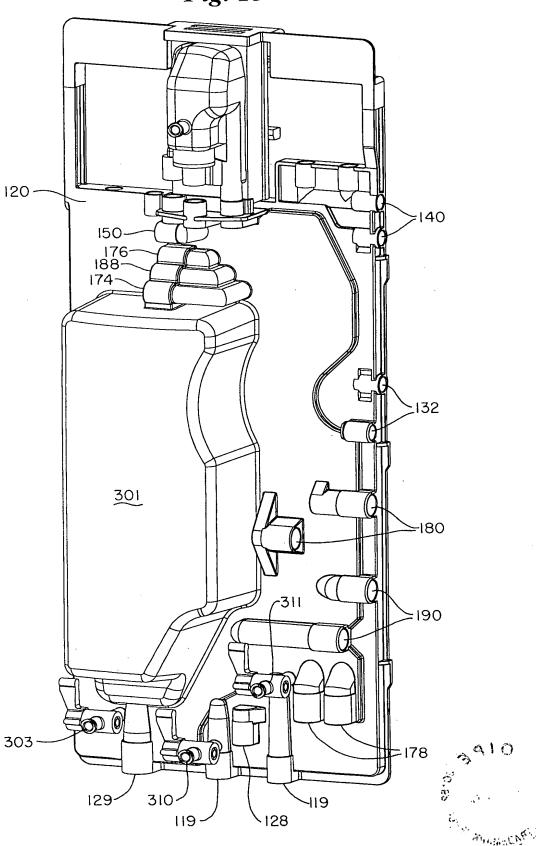
3410

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Fig. 13

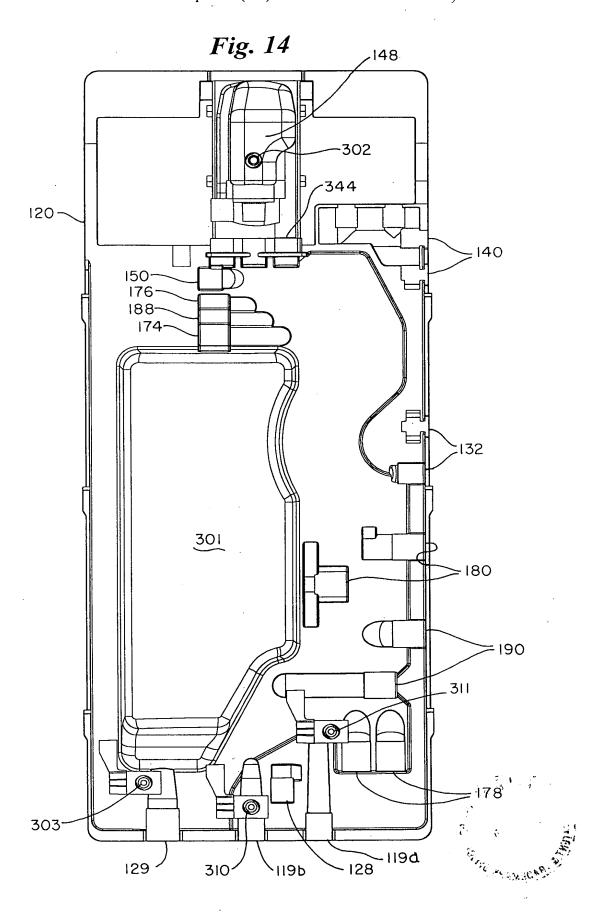


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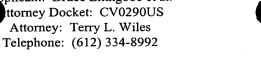
Applicant: Bruce Ellingboe et al. Attorney Docket: CV0290US Attorney: Terry L. Wiles Telephone: (612) 334-8992

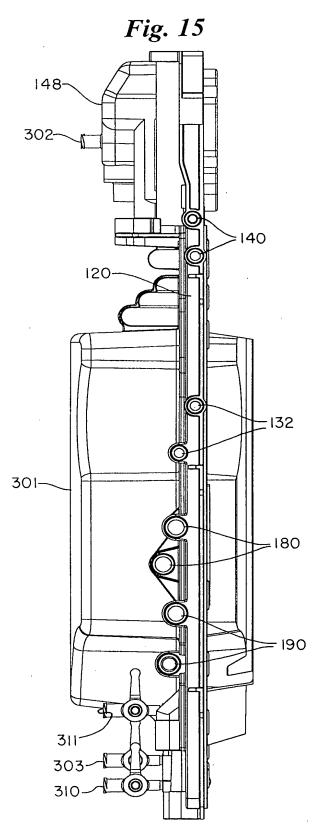




SHEET 32/76 Serial No. 09/963,878

oplicant: Bruce Ellingboe et al. ttorney Docket: CV0290US Attorney: Terry L. Wiles



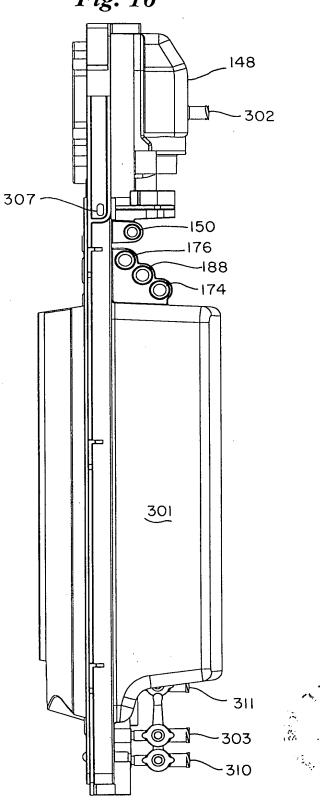




SHEET 33/76 Serial No. 09/963,878 Applicant: Bruce Ellingboe et al.

Attorney Docket: CV0290US
Attorney: Terry L. Wiles
Telephone: (612) 334-8992

Fig. 16

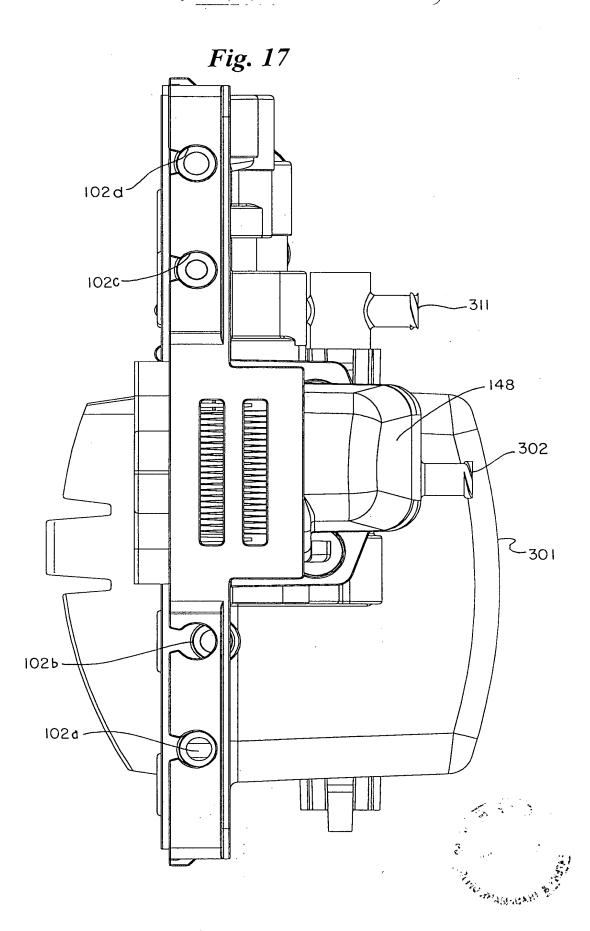


Sritti 34/16 Serial No. 09/963,878

Applicant: Bruce Ellingboe et al. Attorney Docket: CV0290US

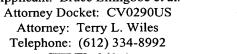
Attorney: Terry L. Wiles Telephone: (612) 334-8992

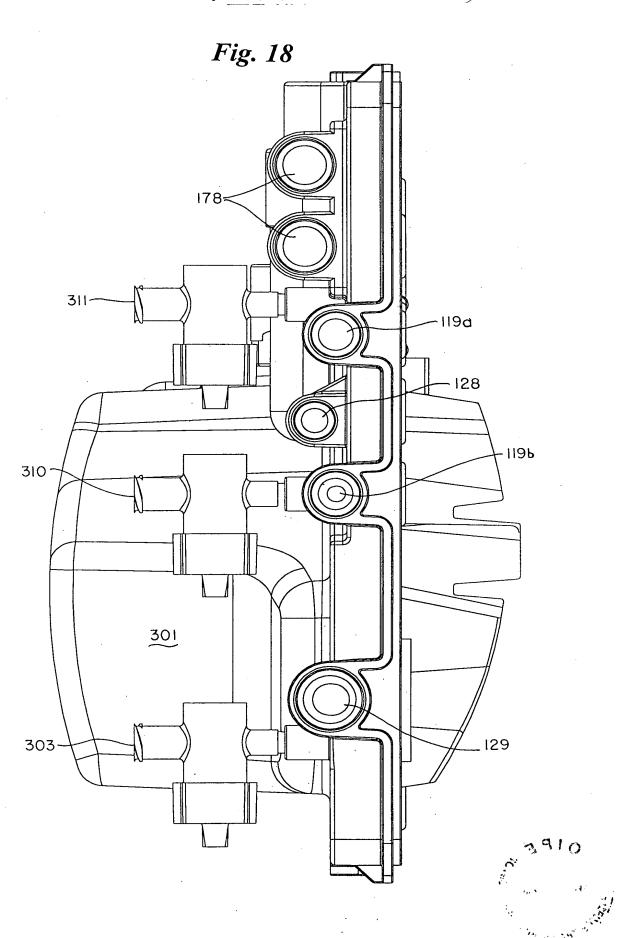




SHEET 35/76 Serial No. 09/963,878

Applicant: Bruce Ellingboe et al.

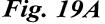


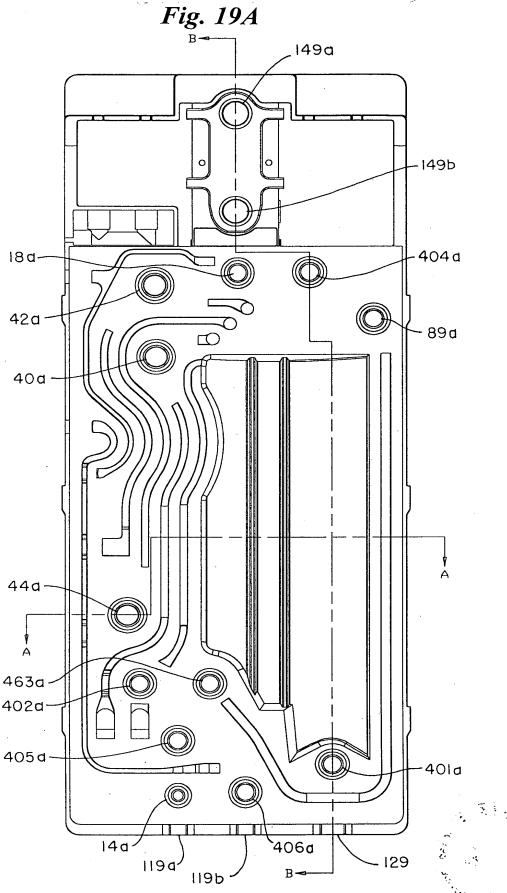


Smkk. 36/76 Serial No. 09/963,878

Applicant: Bruce Ellingboe et al. Attorney Docket: CV0290US

Attorney: Terry L. Wiles Telephone: (612) 334-8992



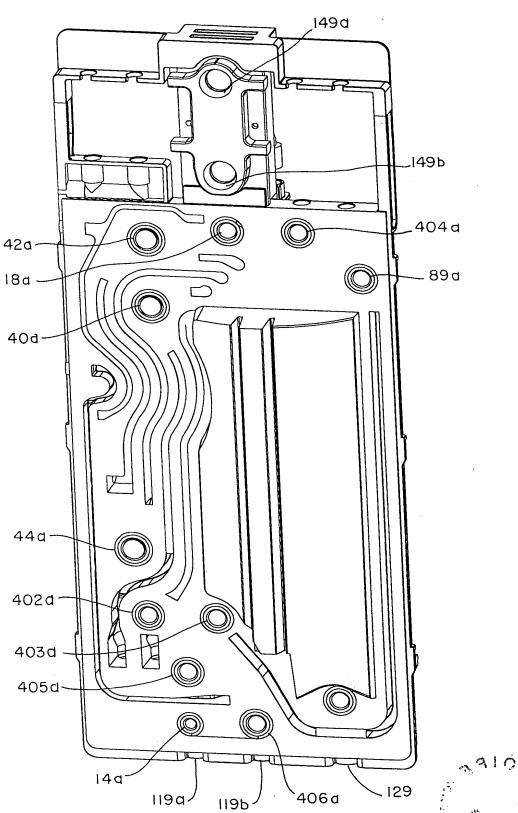


SHEET 37/76

Serial No. 09/963,878 Applicant: Bruce Ellingboe et al. Attorney Docket: CV0290US

Attorney: Terry L. Wiles Telephone: (612) 334-8992

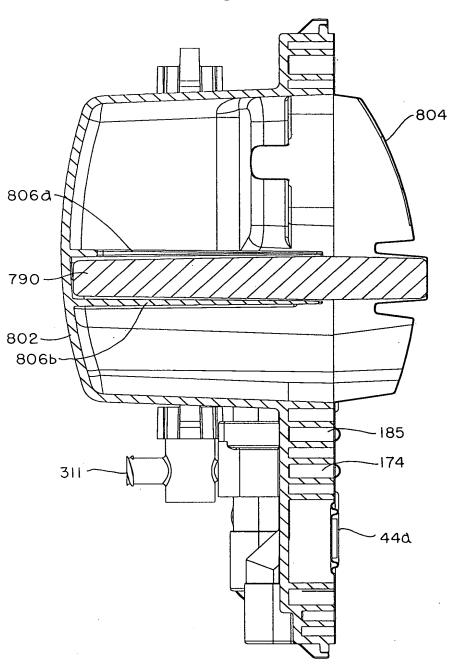
Fig. 19B



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Serial No. 09/963,878

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Fig. 20A

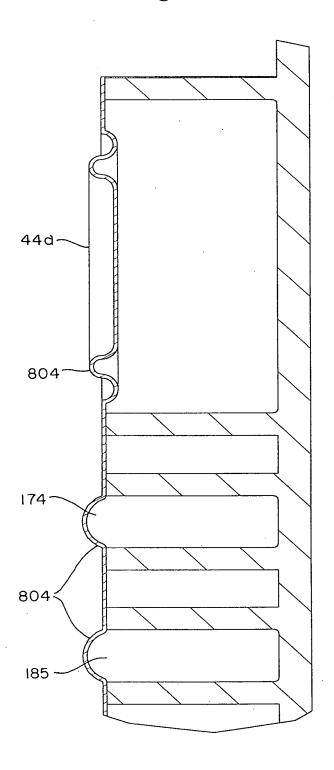




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Applicant: Bruce Ellingboe et al. Attorney Docket: CV0290US Attorney: Terry L. Wiles Telephone: (612) 334-8992

Fig. 20B

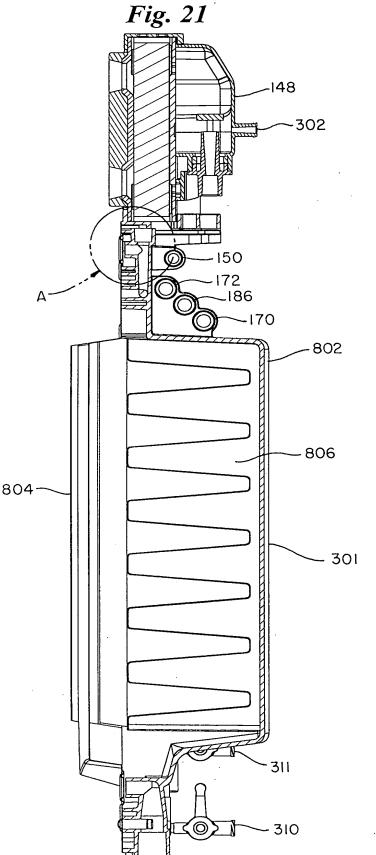


SHEET 40/70 Serial No. 09/963,878

Applicant: Bruce Ellingboe et al.

Attorney Docket: CV0290US Attorney: Terry L. Wiles Telephone: (612) 334-8992





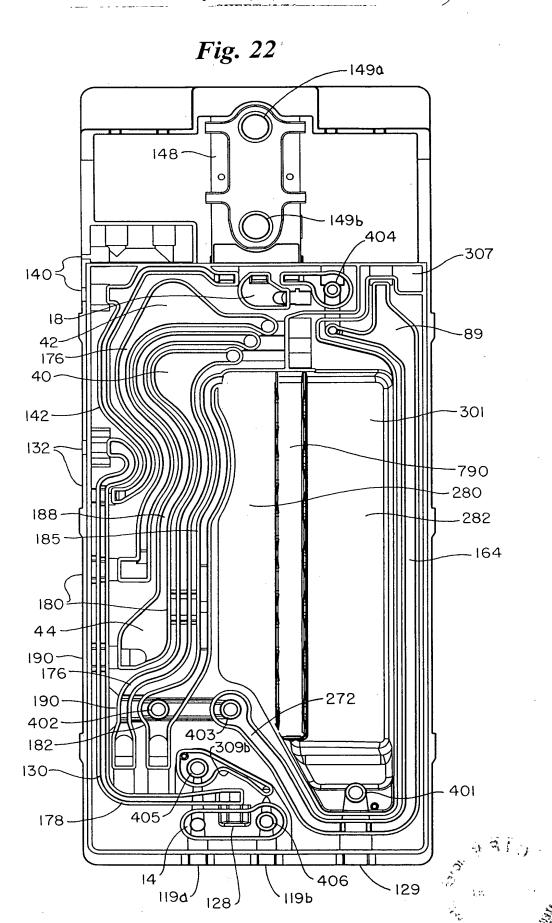
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Applicant: Bruce Ellingboe et al.
Attorney Docket: CV0290US
Attorney: Terry L. Wiles

Attorney: Terry L. Wiles Telephone: (612) 334-8992

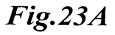


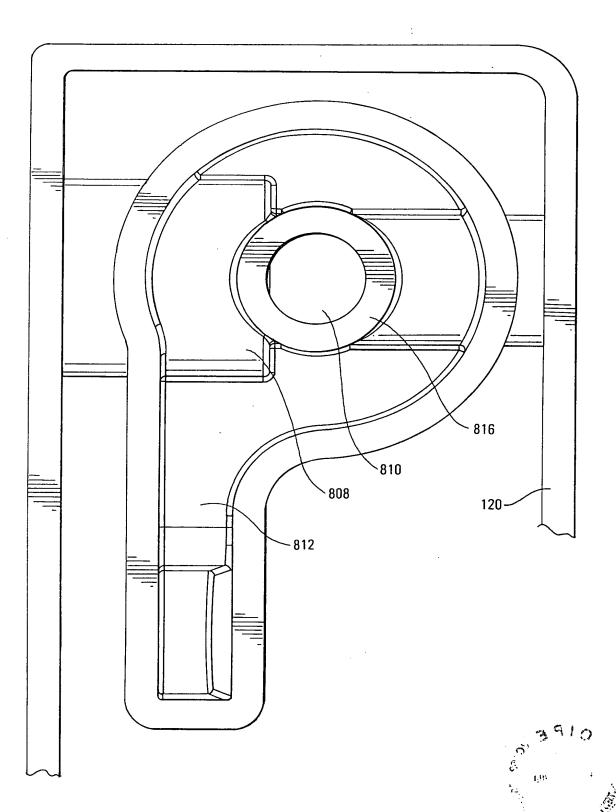


Serial No. 09/963,878

Applicant: Bruce Ellingboe et al.

Attorney Docket: CV0290US

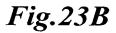


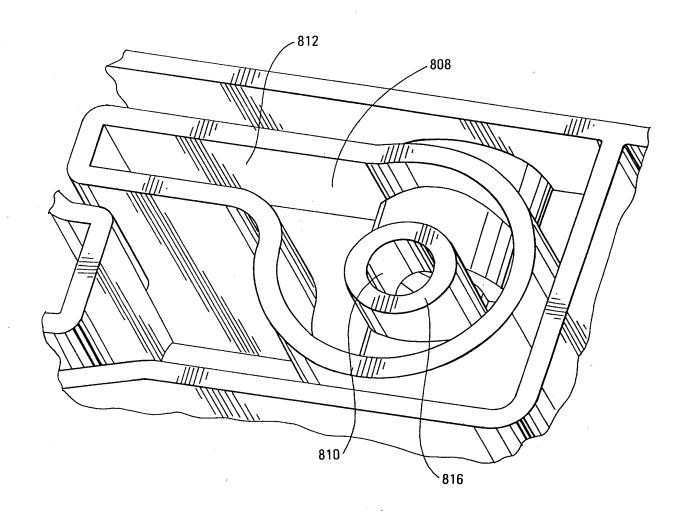


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Applicant: Bruce Ellingboe et al.

Attorney Docket: CV0290US



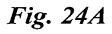


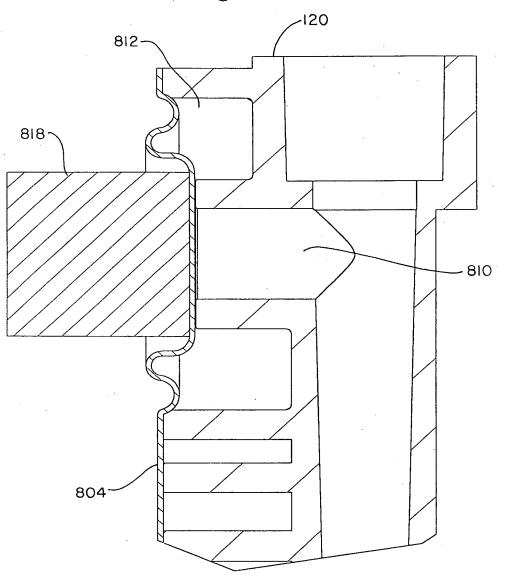


Serial No. 09/963,878

Applicant: Bruce Ellingboe et al.

Attorney Docket: CV0290US

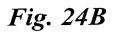


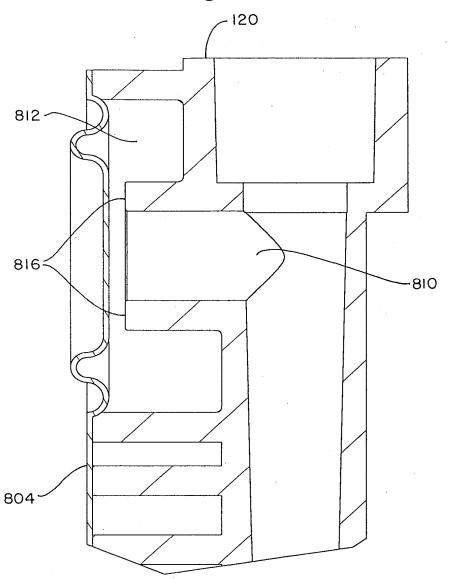




Serial No. 09/963,878 plicant: Bruce Ellingboe et a

Applicant: Bruce Ellingboe et al. Attorney Docket: CV0290US Attorney: Terry L. Wiles Telephone: (612) 334-8992







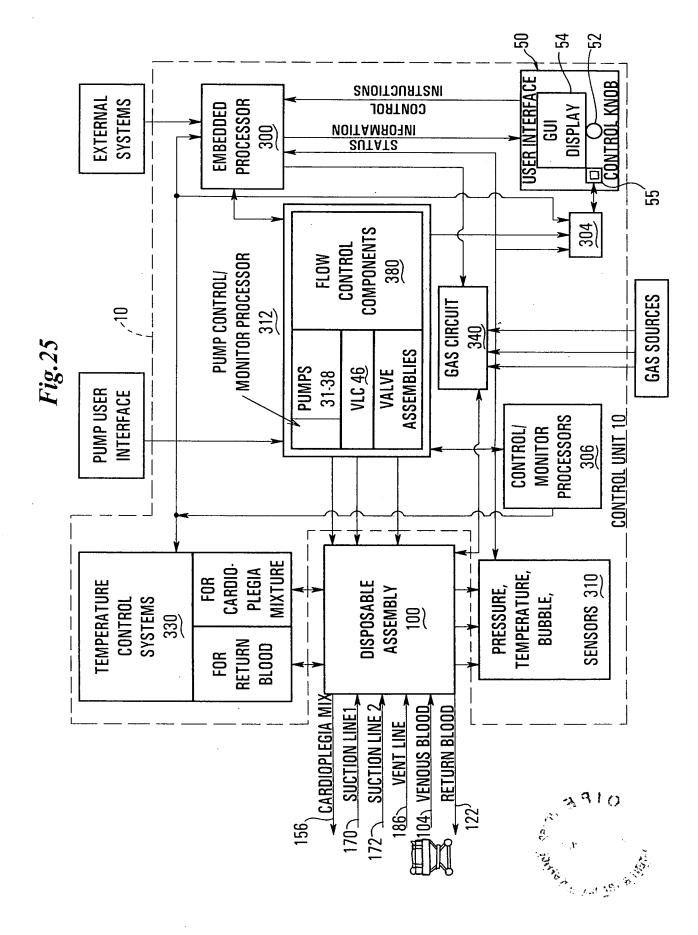
Serial No. 09/963,878

Applicant: Bruce Ellingboe et al.

Attorney Docket: CV0290US

Attorney: Terry L. Wiles

Attorney: Terry L. Wiles Telephone: (612) 334-8992



342c\

3440

-346c

-354c

.348c

VAPORIZER (OPTIONAL)

-358

350 CHECK VALVE

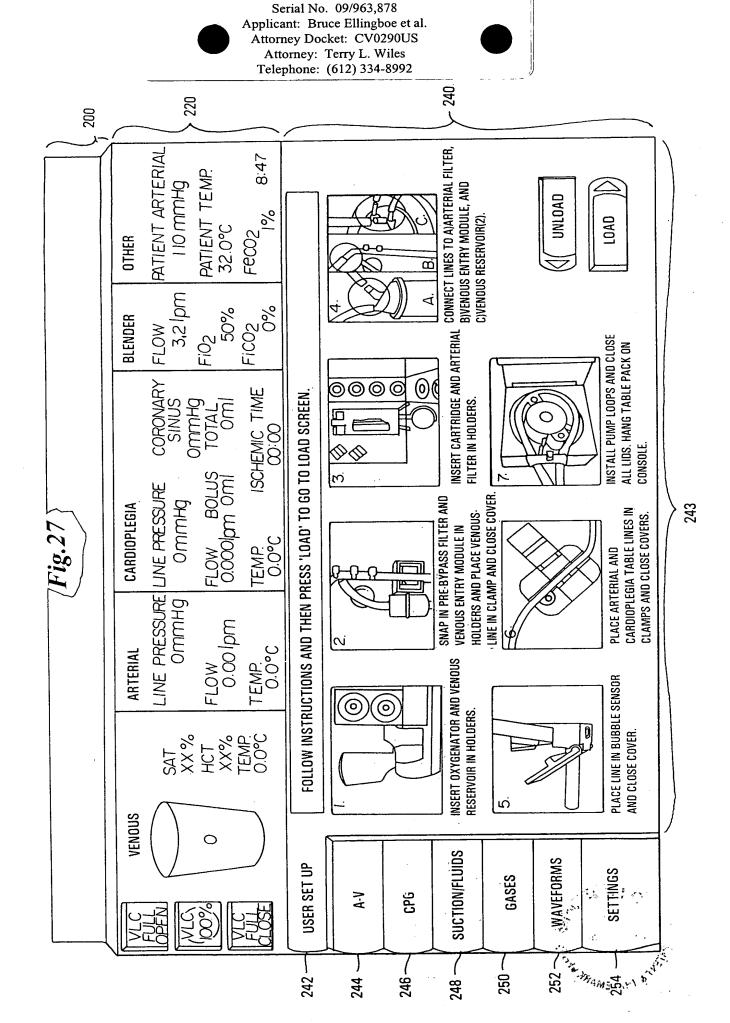
VALVE MANIFOLD

Fig. 26

காம்ம் ட 47770 Serial No. 09/963,878 Applicant: Bruce Ellingboe et al. Attorney Docket: CV0290US Attorney: Terry L. Wiles Telephone: (612) 334-8992 SOURCE SOURCE SOURCE 5%C02 95%02 02 342a FILTER FILTER ⁽344a 344b FILTER -346a REGULATOR REGULATOR REGULATOR **PRESSURE PRESSURE PRESSURE** GAS CONCENTRATION DRYER CROSS FLOW MONITORING 346b OPTIONAL SYSTEM FLOW METER FLOW METER 5%C02 95%02 3546 RESTRICTOR FLOW 352d 348b L 348a 3520 SAMPLING -364 PUMP 368b-FLOW METER TOTAL FLOW 356 OXYGENATOR MONITOR 02/002 DRYER 112 SAMPLING PUMP 368a/ -360 366 DETECTOR FILTER LEAK SCAVANGE LINE

7.55

100

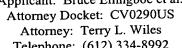


Smell 1 48/10

Sriel 1 49/16
Serial No. 09/963,878
Applicant: Bruce Ellingboe et al. Attorney Docket: CV0290US Attorney: Terry L. Wiles Telephone: (612) 334-8992 green group grove grown made chart at that the fact that the transfer and that the transfer are the fact that the fact green ween green green green and the many them. If it many them, it is the them the three Fig.28C Fig. 28A -202b" .202c" -202a" RESTART PUMP ENABLE Stop OLEVEL OK-PUMP STOP DISABLED LOW LEVEL-PUMP STOPPED LOW LEVEL-PUMP ON 202a' 202b 202a

SHEET 50/76 Serial No. 09/963,878 Applicant: Bruce Ellingboe et al.

Attorney: Terry L. Wiles Telephone: (612) 334-8992



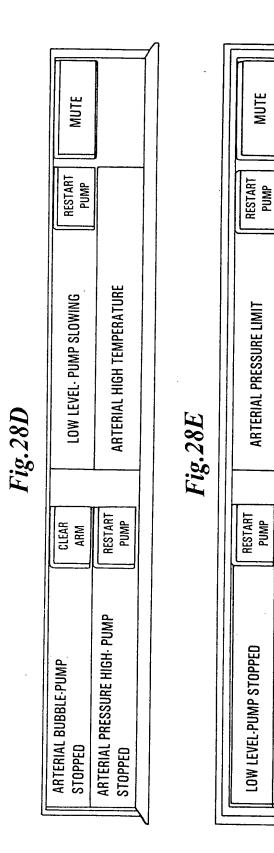
208a

MORE

ARTERIAL HIGH TEMPERATURE

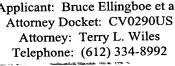
RESTART PUMP

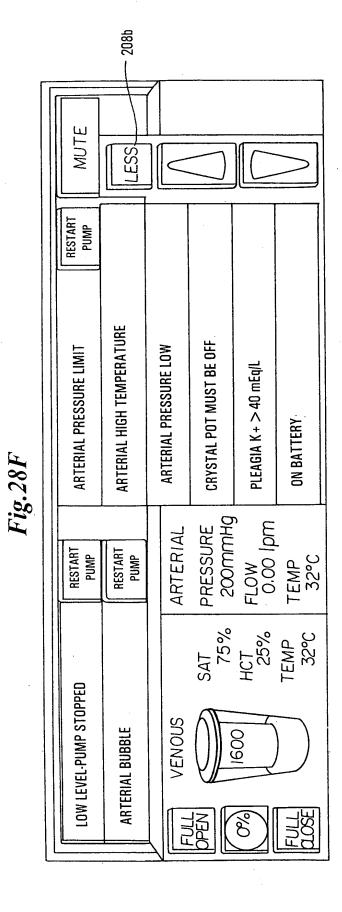
ARTERIAL BUBBLE



SHEET 51/76 Serial No. 09/963,878

Applicant: Bruce Ellingboe et al. Attorney Docket: CV0290US





SHEET 52/76

Serial No. 09/963,878 Applicant: Bruce Ellingboe et al. Attorney Docket: CV0290US

Attorney Docket: CV0290US Attorney: Terry L. Wiles Telephone: (612) 334-8992

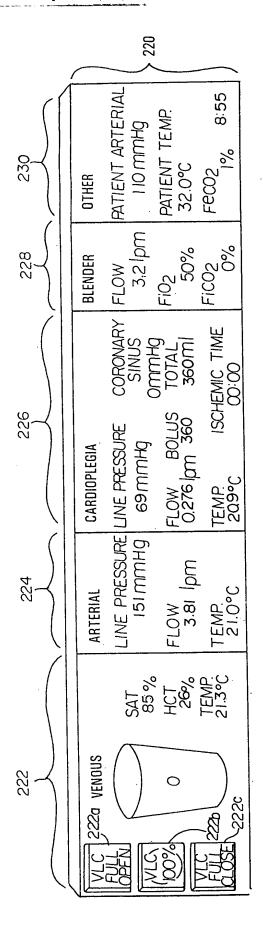
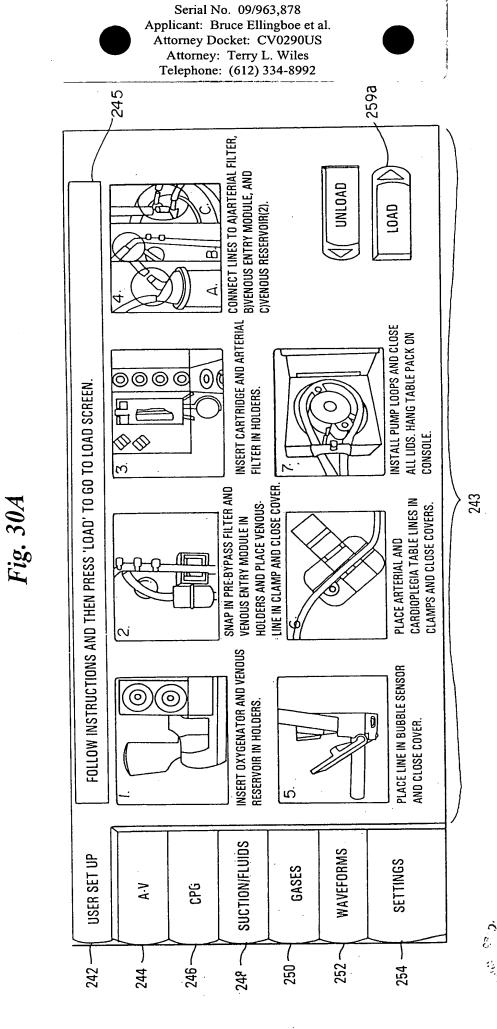


Fig. 29

3910



910

SHEET 53/76

SHELI 54/76 Serial No. 09/963,878 Applicant: Bruce Ellingboe et al. Attorney Docket: CV0290US

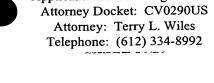
Attorney: Terry L. Wiles Telephone: (612) 334-8992

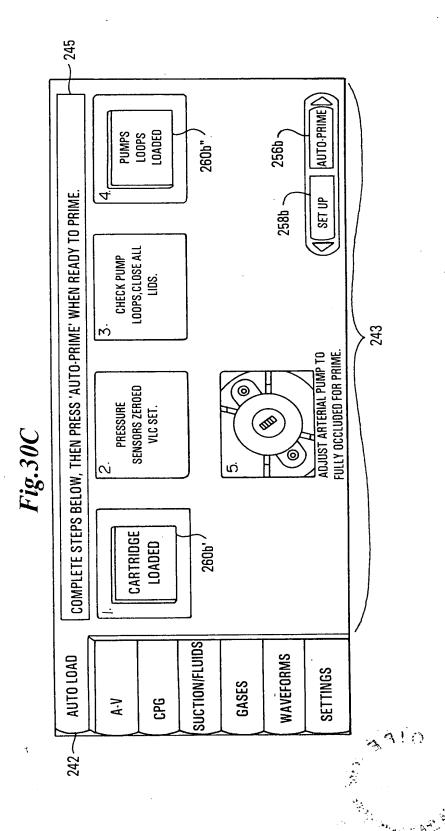
245 AUTO-PRIME) LOAD PUMP LOOPS 260b" 256b. 258b. PRESS 'LOAD CARTRIDGE AND OXYGENATOR' TO AUTOMATICALLY LOAD CARTRIDGE CHECK PUMP LOOPS,CLOSE ALL LIDS. 243 ADJUST ARTERIAL PUMP TO FULLY OCCLUDED FOR PRIME. PRESSURE SENSORS ZEROED VLC SET. (e) IIII **o** AND DXYGENATOR INTO SYSTEM. AND OXYGENATOR LOAD Cartridge ~260b' SUCTION/FLUIDS **AUTO LOAD** WAVEFORMS SETTINGS GASES CPG A.V

Fig.30B

SHEET 55/10

Serial No. 09/963,878 Applicant: Bruce Ellingboe et al. Attorney Docket: CV0290US

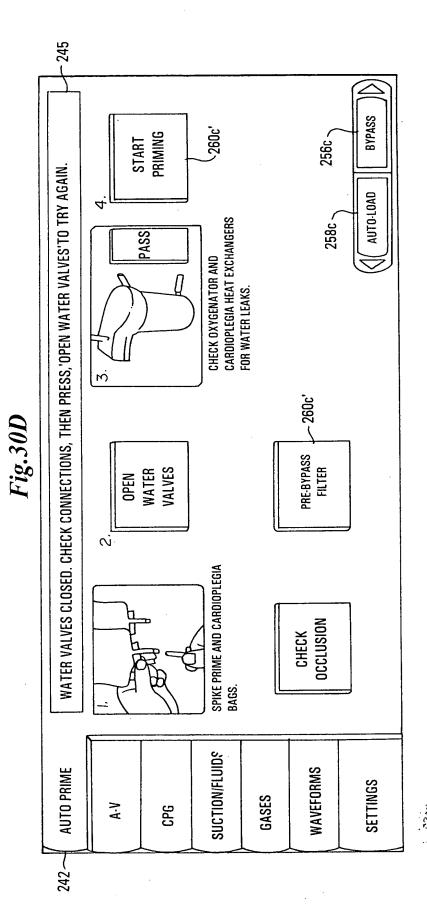




SHEET 56/76

Serial No. 09/963,878
Applicant: Bruce Ellingboe et al.
Attorney Docket: CV0290US

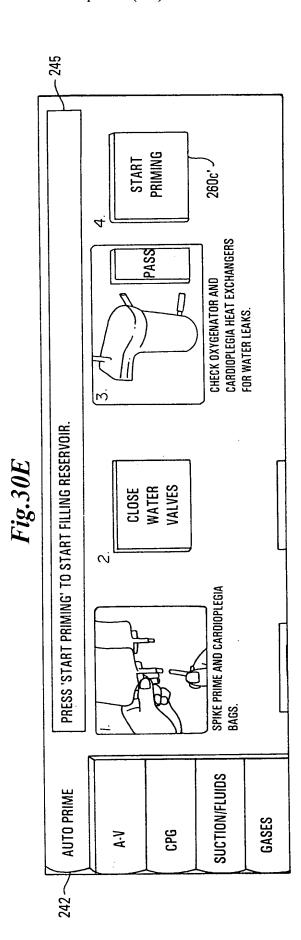
Attorney: Terry L. Wiles Telephone: (612) 334-8992



3910

Spill 5//16 Serial No. 09/963,878 Applicant: Bruce Ellingboe et al.

Applicant: Bruce Ellingboe et a Attorney Docket: CV0290US Attorney: Terry L. Wiles Telephone: (612) 334-8992

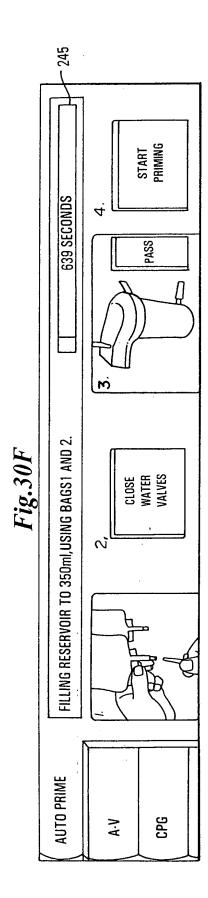




SHEET 58/76

Serial No. 09/963,878 Applicant: Bruce Ellingboe et al. Attorney Docket: CV0290US Attorney: Terry L. Wiles

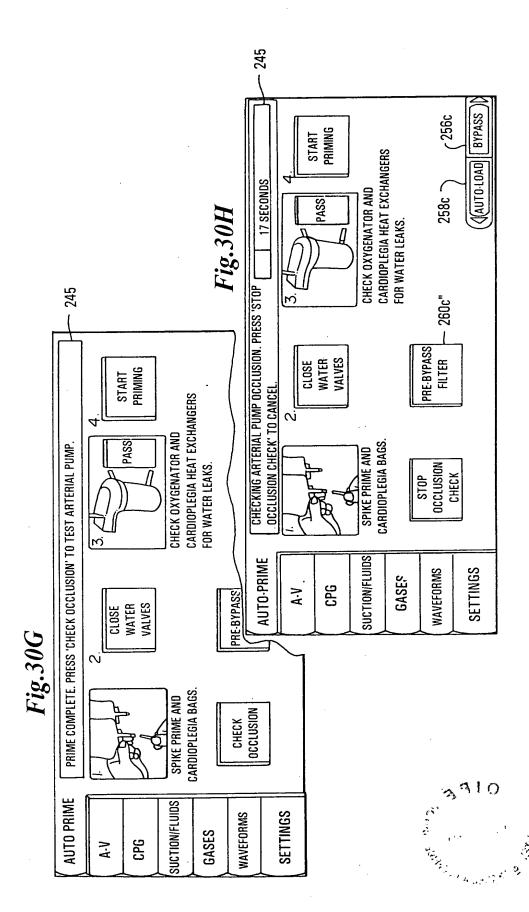
Telephone: (612) 334-8992



SHEE 1 59/16 Serial No. 09/963,878

Applicant: Bruce Ellingboe et al. Attorney Docket: CV0290US

Attorney: Terry L. Wiles Telephone: (612) 334-8992

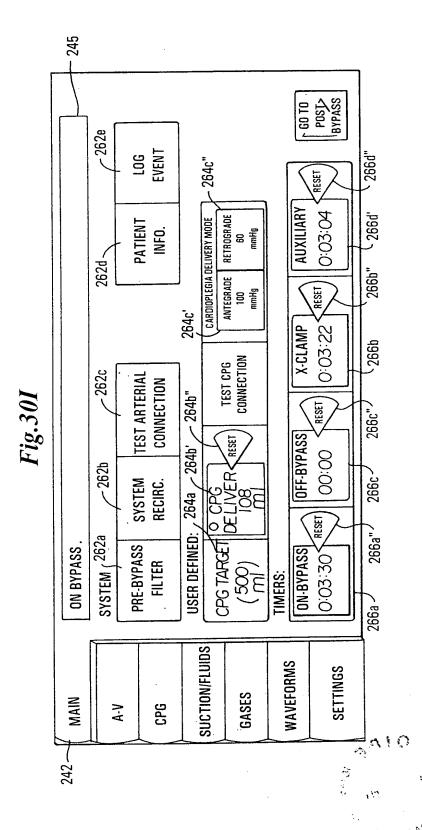


SHEET 60/76

Serial No. 09/963,878

Applicant: Bruce Ellingboe et al. Attorney Docket: CV0290US Attorney: Terry L. Wiles

Telephone: (612) 334-8992



SHEET 61/76 Serial No. 09/963,878

Applicant: Bruce Ellingboe et al.
Attorney Docket: CV0290US

Attorney: Terry L. Wiles Telephone: (612) 334-8992

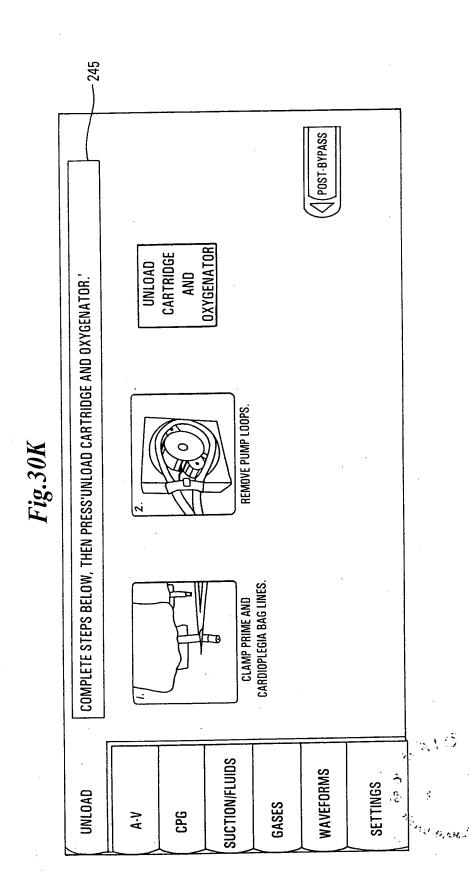
RETURN TO SBYPASS MOVE TO Unloading LOG EVENT RESET AUXILIARY 0:03:47 PATIENT Info. TO BAGS FILL PATIENT: START ARTERIAL TO FLOW DOWN PATIENT LINE. RESET 0:06:34 X-CLAMP DELIVER ml **TEST ARTERIAL** CONNECTION RESET CHASE BOLUS m OFF-BYPASS ~ 264d" 00:45 SYSTEM Recirc. USER DEFINED: , 264d' DELIVER 0 ml PRE-BYPASS ON-BYPASS 0:06:57 FILTER BOLUS FILL PATIENT TIMERS: SYSTEM Ē SUCTION/FLUIDS WAVEFORMS SETTINGS GASES MAIN A-V CPG

Fig.30J

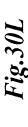
SHEET 62/76 Serial No. 09/963,878

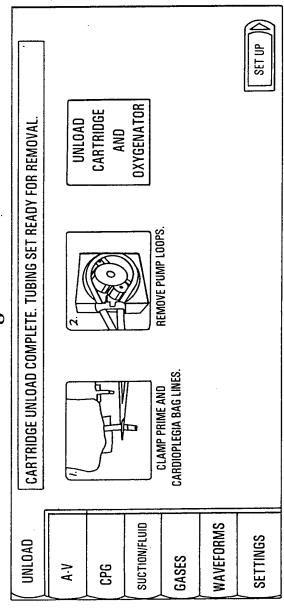
Applicant: Bruce Ellingboe et al. Attorney Docket: CV0290US

Attorney: Terry L. Wiles Telephone: (612) 334-8992



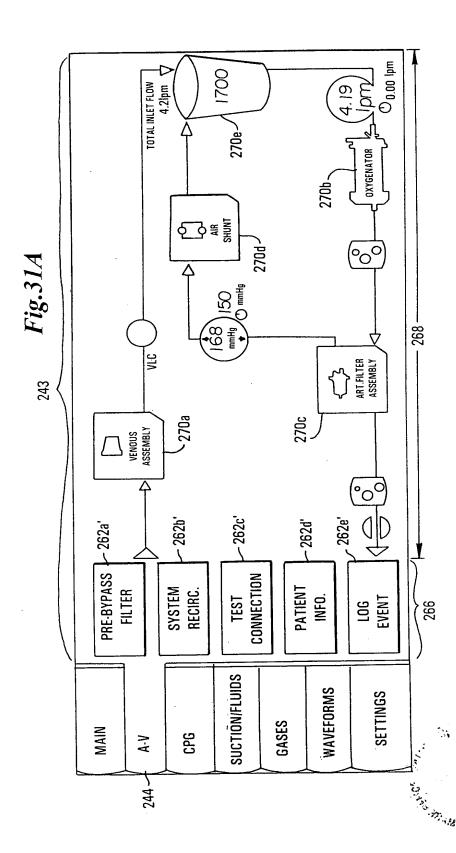
SHEE 1 63/76 Serial No. 09/963,878 Applicant: Bruce Ellingboe et al.







SHELL 04/10 Serial No. 09/963,878 Applicant: Bruce Ellingboe et al.



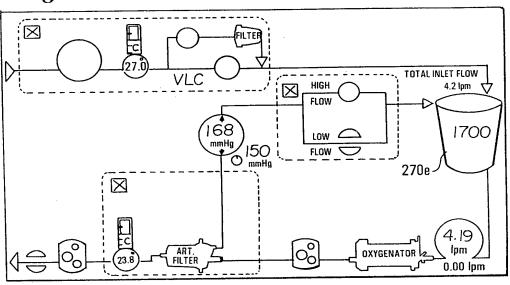
SHLL 1 65/76

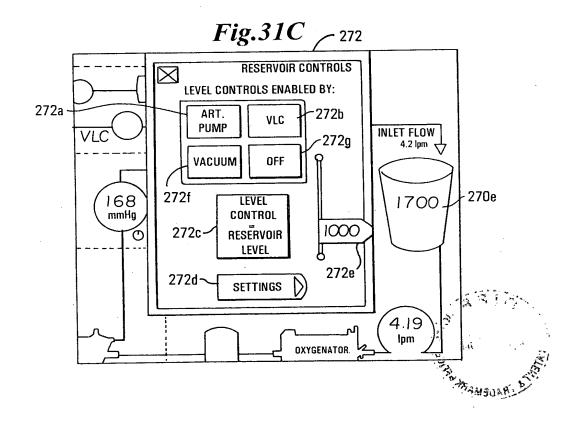
Serial No. 09/963,878

Applicant: Bruce Ellingboe et al. Attorney Docket: CV0290US Attorney: Terry L. Wiles Telephone: (612) 334-8992



Fig.31B





SHEE: 66//6 Serial No. 09/963,878

Applicant: Bruce Ellingboe et al. Attorney Docket: CV0290US Attorney: Terry L. Wiles

Telephone: (612) 334-8992

Fig.31D

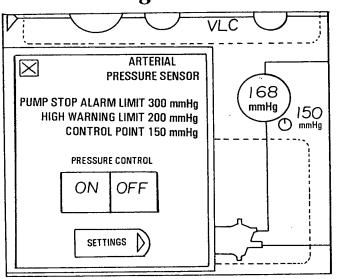


Fig.31E

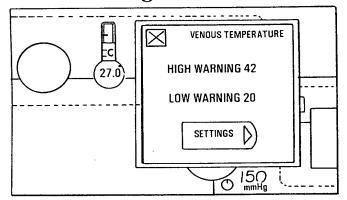
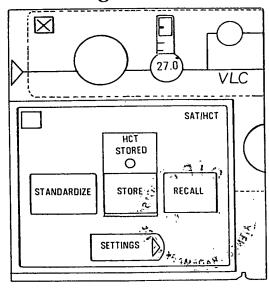
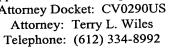


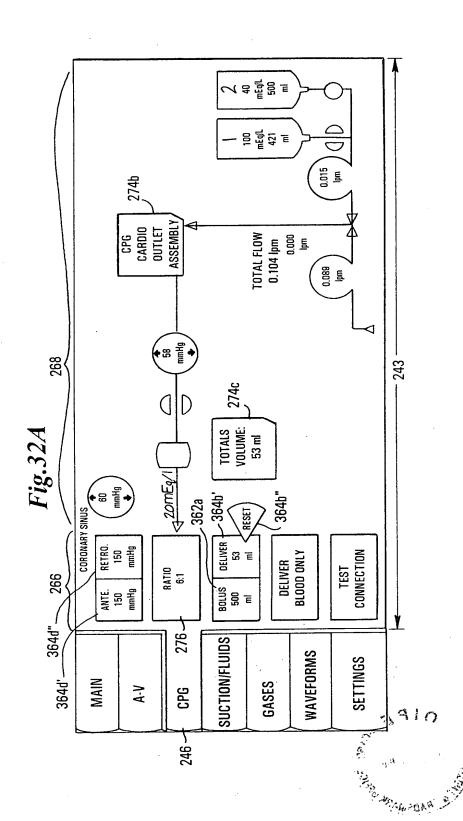
Fig.31F



Spile 1 6 // /6 Serial No. 09/963,878 Applicant: Bruce Ellingboe et al.

Attorney Docket: CV0290US





SHEE1 68/76Serial No. 09/963,878

Applicant: Bruce Ellingboe et al. Attorney Docket: CV0290US Attorney: Terry L. Wiles Telephone: (612) 334-8992

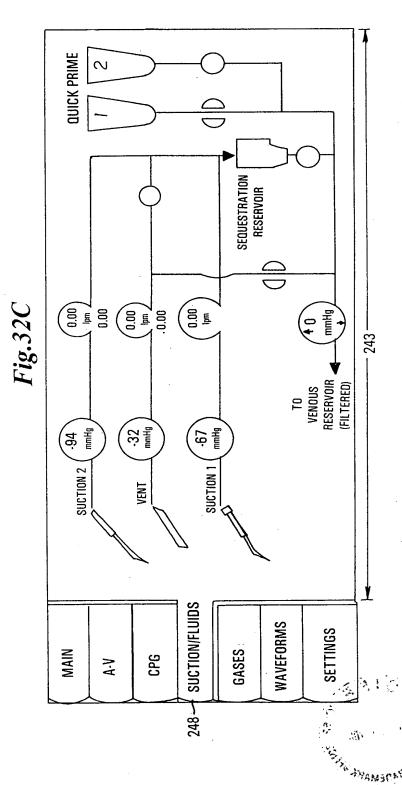
100 mEq/L 409 0.014 lpm BUBBLE TRAP HEATER TOTAL FLOW 0.104 lpm 0.000 0.090 mq **88** ₽ TOTAL VOLUME
137 ml
TOTAL K+
9 mEq
TOTAL CRYSTALLOID
19 mEqL RESET CORONARY SINUS DELIVER 137 RETRO. 150 mmHg DELIVER Blood only TEST CONNECTION RATIO 6,4:1 801US 500 ml ANTE. 150 mmHg 276 SUCTION/FLUIDS WAVEFORMS SETTINGS GASES MAIN CPGA٠٧ 246 –

CN 含 를 B 로

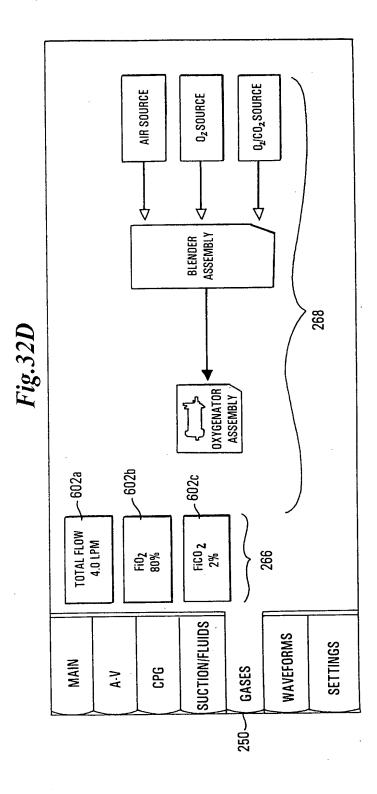
Fig.32B

SHEE 1"69//6 Serial No. 09/963,878

Applicant: Bruce Ellingboe et al. Attorney Docket: CV0290US Attorney: Terry L. Wiles Telephone: (612) 334-8992



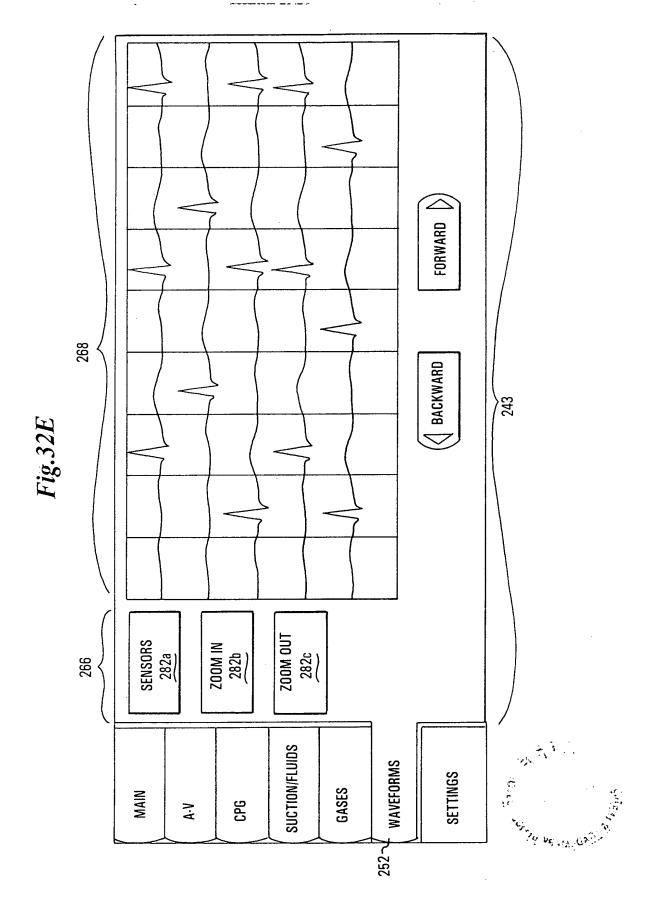
SELE I 10116 Serial No. 09/963,878 Applicant: Bruce Ellingboe et al.

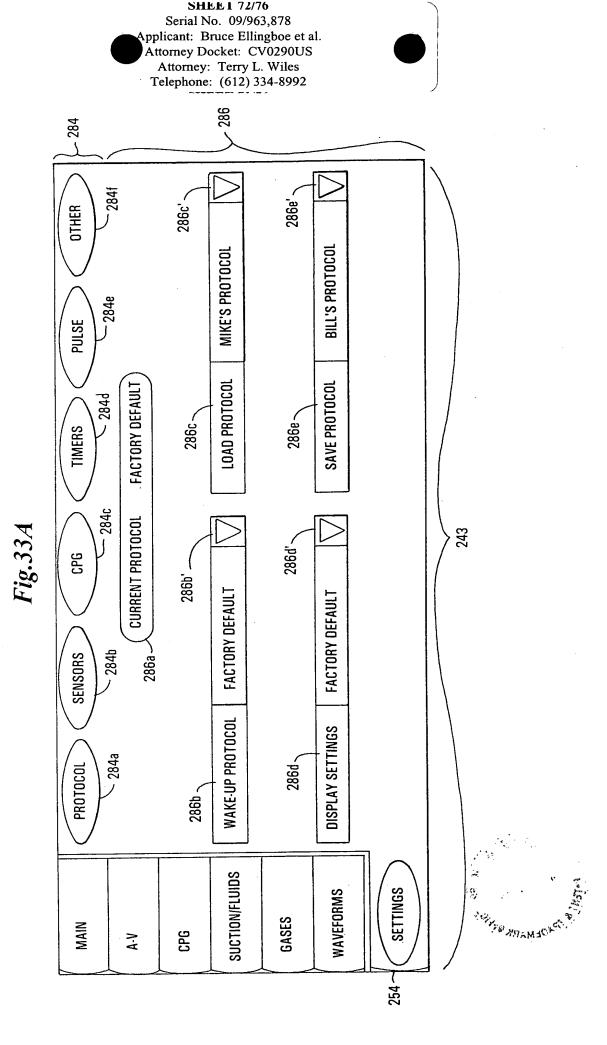


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Applicant: Bruce Ellingboe et al.

Attorney Docket: CV0290US





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Applicant: Bruce Ellingboe et al.
Attorney Docket: CV0290US

Fig. 33B

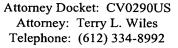
•		, o	~~.Q. T			
MAIN	PROTOCOL	SENSORS CPG		TIMERS	PULSE OTHER	(m)
A-V		√284b				
CPG	AIR DETECTORS	BUBBLE SENSOR 1		BLENDER/GAS	BLENDER	
SUCTION/FLUIDS						
CASES	PRESSURE SENSORS	ARTERIAL LINE		TEMP. SENSORS	VENOUS	$\overline{\triangleright}$
GROES						
WAVEFORMS	LEVEL DETECTORS	CONTINUOUS SENSOR		SAT/HCT	WARNING LIMITS	
]
SETTINGS						
						_

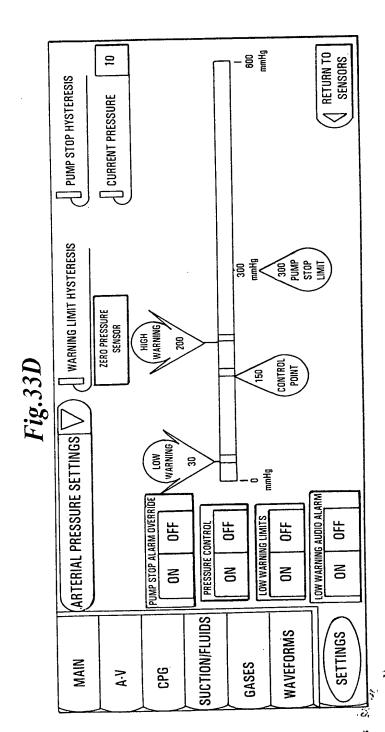
Fig. 33C

VSOR 1	NSOR 1	0 000	ISUR 2	הרדרידום	חבוברוחש
BUBBLE SENSOR	BUBBLE SENSOR 1	410 1100110	BUBBLE SENSUR 2	יוממוום טמט	ריים מטפטוב עבו בניו עמ
AIR DETECTORS			PRESCURE SENSORS	וובסססוור סבואססווס	

SHEET 74/76 Serial No. 09/963,878

Applicant: Bruce Ellingboe et al. Attorney Docket: CV0290US Attorney: Terry L. Wiles





SHEET 75/76 Serial No. 09/963,878

Applicant: Bruce Ellingboe et al. Attorney Docket: CV0290US Attorney: Terry L. Wiles Telephone: (612) 334-8992

RETURN TO SENSORS A CURRENT TEMPERATURE 32 **VENOUS TEMPERATURE SETTINGS** OFF. 뜐 LOW WARNING LIMIT HIGH WARNING LIMIT OFF 8 8 SUCTION/FLUIDS WAVEFORMS SETTINGS GASES MAIN CPG A·V A AMERICAN STRAINS

SHEET '/6/76

Serial No. 09/963,878 Applicant: Bruce Ellingboe et al.

Applicant: Bruce Ellingboe et a Attorney Docket: CV0290US Attorney: Terry L. Wiles Telephone: (612) 334-8992



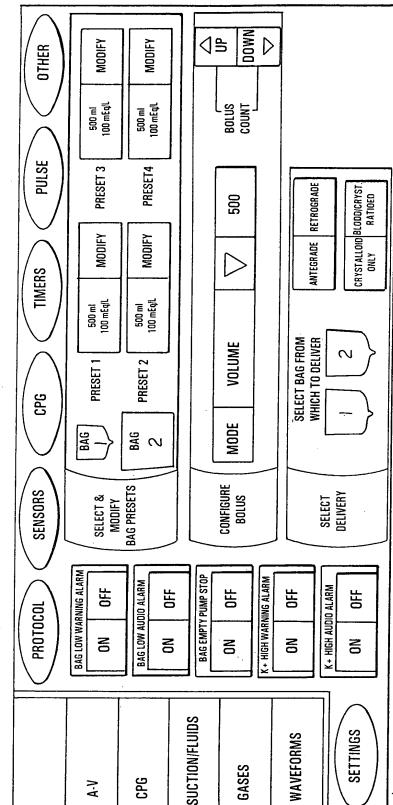


Fig.33F

2910

The Manager